HON PRECALCULUS Name:_____

HW: Sequences & Series Practice

1. Find the sum.

$$\sum_{k=1}^{3} \frac{1}{k^2+4}$$

A) $\frac{209}{520}$
B) $\frac{1}{11}$
C) 1
D) $\frac{13}{12}$
E) $\frac{12}{11}$

2. Find a formula for a_n for the arithmetic sequence.

$a_3 = -13, a_6 = -31$

A) $a_n = -4 - 8n$
B) $a_n = -4 - 4n$
C) $a_n = -8 - 4n$
D) $a_n = -4(-8)^n$
E) $a_n = 4 - 8n$

3. Write the nth term of the arithmetic sequence as a function of n.

$a_1 = 6, a_{k+1} = a_k - 4$

A) $a_n = -14 - 8n$
B) $a_n = 10 - 4n$
C) $a_n = -6 - 8n$
D) $a_n = 2 - 8(n-1)$
E) $a_n = -2 - 6n$

4. Find the indicated nth partial sum of the arithmetic sequence.

2.8, 5.4, 8, 10.6, ..., $n = 95$

A) 12749
B) 12122
C) 11875
D) 11874.8
E) 11875.2

5. Determine whether the sequence is geometric. If so, find the common ratio.

5, –10, 20, –40, ...

A) –2
B) 5
C) $-\frac{1}{2}$
D) 2
E) not geometric

6. Find the indicated term of the geometric sequence. Round to the nearest thousandth.

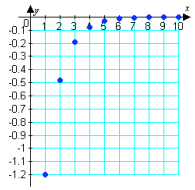
$a_1 = 2, r = 1.03, n = 11$

A) 12.300
B) 2.768
C) 2.688
D) 2.852
E) 2.060

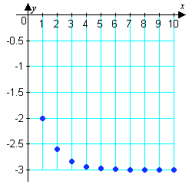
7. Match the geometric sequence with its graph from the choices below.

$a_n = -3\left(\frac{2}{5}\right)^{n-1}$

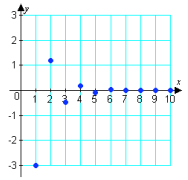
A)



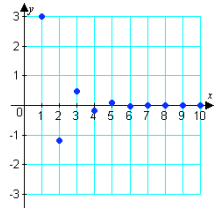
B)



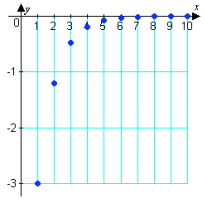
C)



D)



E)



8. Do the following text book problems:

p. 652/113 p. 661/87, 91 p. 671/103, 117

Answer Key

1. A
2. E
3. B
4. C
5. A
6. C
7. E